- Luckow, M. and R. M. Pimentel. 1985. An empirical comparison of numerical Wagner computer programs. Cladistics 1:47–66.
- Mickevich, M. F. and J. S. Farris. 1984. PHYSYS documentation.
- Nelson, G. 1979. Cladistic analysis and synthesis: principles and definitions, with a historical note on Adanson's "Familles des plantes" (1763–1764). Syst. Zool. 28:1–21.
- Nelson, G. and N. I. Platnick. 1981. Systematics and Biogeography; Cladistics and Vicariance. Columbia University Press, New York.
- O'Grady, R. T. and G. B. Deets. 1987. Coding multistate characters, with special reference to the use of parasites as characters of their hosts. Syst. Zool. 36:268–279.
- Pimentel, R. M. and R. Riggins. 1987. The nature of cladistic data. Cladistics 3:201-209.
- Platnick, N. I. 1987. An empirical comparison of microcomputer parsimony programs. Cladistics 3:121–144.
- Platnick, N. I. 1988. Programs for quicker relationships. Nature 335:310.
- Platnick, N. I. In press. An empirical comparison of microcomputer parsimony programs, II. Cladistics.
- Swofford, D. L. 1985. **PAUP** (phylogenetic analysis using parsimony). Documentation for version 2.4. Illinois Natural History Survey, Champaign.

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TWO NEW TRUE BUG CATALOGS

Catalog and Bibliography of the Leptopodomorpha (Heteroptera). – R. T. Schuh, B. Galil, and J. T. Polhemus. 1987. Bulletin of the American Museum of Natural History 185:243–406. \$10.65.

For most biologists, and especially for museum curators, taxonomists, and biogeographers, the most important source of reference is a worldwide catalogue. Unfortunately, few people want to undertake the tedious and time-consuming work involved in making such a catalogue. The present volume is therefore received with great enthusiasm.

For many higher groups of Heteroptera or true bugs, the only worldwide catalogue is still that of L. Lethierry and G. Severin (1893–1896). Needless to say, this catalogue is hopelessly outdated. The "General Catalogue of the Hemiptera," initiated in 1927 (Editors G. Horvath and H. M. Parshley) was never completed as far as the Heteroptera is concerned. In fact, only two heteropteran families were ever treated, the Mesoveliidae by G. Horvath and the Pyrrhocoridae by R. F. Hussey (both in 1929).

Fortunately, other worldwide catalogues have appeared, foremost among them the impressive catalogues on the Miridae by J. C. M. Carvalho (1957–1960), on the Lygaeidae by J. A. Slater (1964), and on the Tingidae by C. J. Drake and F. A. Ruhoff (1965). Nevertheless, most families of the Heteroptera, including such large and important groups as the Reduviidae, Coreidae, and Pentatomidae, have not been adequately catalogued.

The present "Catalog and Bibliography of the Leptopodomorpha" covers one of the smallest of the heteropteran infraorders with less than 300 described species. The infraorder comprises the shore bugs and allied groups. Most species inhabit damp soil close to water, either fresh or saline. A few species are intertidal marine. The taxonomy of leptopodomorphans is generally well known and the phylogeny above the genus-level has been analysed quite recently (Schuh and Polhemus, 1980).

The authors apply the most recent classification of the Leptopodomorpha which divides the infraorder into four families, Leptopodidae (7 genera, 28 species), Omaniidae (2, 4), Aepophilidae (1, 1), and Saldidae (25, 264). The odd genus *Leotichius*, which previously had its own family, is now included in the Leptopodidae. The remarkable marine bug, *Aepophilus bonnairei* Signoret, of western Europe is the single member of the family Aepophilidae.

The catalogue has an excellent introductory chapter. The section describing the format is necessary for the use of the catalogue and at the same time provides a layout which may well be followed by future cataloguers. The organization of the catalog is alphabetically within each level of the hierarchy. Species are catalogued by genera while subgeneric placements are ignored although recorded. Since subgeneric placements often are controversial, it is understandable why the authors have adopted this procedure. Subspecies are not catalogued separately but listed under the species they belong to. This is a wise decision which evades the problems caused by inconsistent usages of "forms," "varieties," and "subspecies" by previous authors.

The typography used is clear and consistent and makes it quite easy for the reader to find his way around. The section for each species is headed by the species name and the name of the author. It is misleading, however, that author names are cited without the use of parentheses to distinguish between original and subsequent combinations with generic names. It is correct that Article 51 (c) of the Code only provides that the name of the author is enclosed in parentheses if a species name is *combined* with a generic name other than the original one. However, in this catalogue the reader must find out for himself what is the correct form.

For each species, references and distributional records are listed chronologically. The authors seem to have made an exhaustive search for literature covering both taxonomical and faunistical references, as well as works on biology, ecology, etc. However, it is difficult to understand how the authors missed the catalogue of the Heteroptera of Sweden by Coulianos and Ossiannilsson (1976), one of the most reliable faunal lists published in any European country.

The bibliography is divided in two parts. The first part includes only those references which are cited in the catalogue. The second part contains additional but uncatalogued references. Each reference is followed by a short but very useful note stating its key contents. The choice of references for both parts seems relevant and exhaustive, making this new catalogue extremely useful in itself and an example to follow by future cataloguers.—*Nils Møller Andersen, Zoological Museum, Universitetsparken 15, DK-2100 Copenhagen, Denmark.*

LITERATURE CITED

- Coulianos, C.-C. and F. Ossiannilsson. 1976. Catalogus Insectorum Sueciae. VII. Hemiptera-Heteroptera, 2nd Edition. Ent. Tidskr. 97:135–173.
- Schuh, R. T. and J. T. Polhemus. 1980. Analysis of taxonomic congruence among morphological, ecological and biogeographic data sets for the Leptopodomorpha (Hemiptera). Syst. Zool. 29:1–26.